

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/679,361	FURUHATA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Paul Huber	2653	

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**  
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-3.
3. ☒ The drawings filed on 07 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

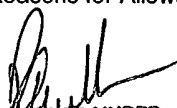
\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

  
**PAUL W. HUBER**  
**PRIMARY EXAMINER**

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**EXAMINER'S AMENDMENT & REASONS FOR ALLOWANCE**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In the specification, page 4, line 14; " $\alpha_2 = \tan^{-1}((B-A)/f)$ " was changed to -- " $\alpha_2 = \tan^{-1}((B-A)/f)$ " --.

In claim 3, line 18; " $\alpha_2 = \tan^{-1}((B-A)/f)$ " was changed to -- " $\alpha_2 = \tan^{-1}((B-A)/f)$ " --.

The amendments were made in order to provide a close bracket for the next previous open bracket.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited on the PTO-892 each disclose an optical pickup apparatus including a first and second light source.

The following is an examiner's statement of reasons for allowance: the prior art of record considered as a whole fails to teach or suggest either:

1) an optical pickup apparatus comprising: a first light source for emitting a first laser beam having a first wavelength; a second light source of emitting a second laser beam having a second wavelength; and an objective lens for condensing the first laser beam and the second laser beam, wherein **the first light source and the second light source are disposed in positions in such a way that a total amount of coma aberration, which is generated on the first laser beam in accordance with a distance between the first light source and an optical axis of a whole optical system and coma aberration, which is generated on the first laser beam in accordance with a tilting amount of the objective lens becomes null, and a total amount of coma aberration, which is generated on the second laser beam in accordance with a distance between the second light source and the optical axis and coma aberration, which is generated on the second laser beam in accordance with the tilting amount of the objective lens becomes null;**

2) an optical pickup apparatus comprising: a first light source for emitting a first laser beam having a first wavelength; a second light source for emitting a second laser beam having a second wavelength; a collimator lens for transforming the first laser beam and second laser beam to parallel beams; and an objective lens for condensing the parallel beams, wherein **the first light source and second light source are disposed in positions in such a way that a total amount of coma aberration, which is generated on the first laser beam due to an image height relative to an optical axis of a whole optical system, which is generated in accordance with a first angle of incidence at which the first laser beam is launched into the collimator lens, and coma aberration, which is**

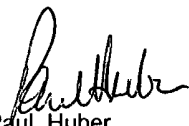
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generated on the first laser beam in accordance with a tilting amount of the object lens becomes null, and a total amount of coma aberration, which is generated on the second laser beam due to an image height relative to the optical axis, which is generated in accordance with a second angle of incidence at which the second laser beam is launched into the collimator lens and coma aberration, which is generated on the second laser beam in accordance with the tilting amount of the objective lens becomes null; or

3) an optical pickup apparatus comprising: a first light source for emitting a first laser beam having a first wavelength; a second light source for emitting a second beam having a second wavelength; a collimator lens for transforming the first laser beam and the second laser beam to parallel beams; and an objective lens for condensing the parallel beams, wherein a distance **B** between the second light source and an optical axis of a whole optical system is expressed by a following formula:  $B = (g \cdot H \cdot A) / (g \cdot H - G \cdot h)$ , where "A" is a distance between the first light source and second light source, "B" is a distance between the first light source and the optical axis, "h" is an increasing rate in an amount of coma aberration of the first laser beam relative to a first angle of incidence " $\alpha_1 = \tan^{-1}(B/f)$ " at which the first laser beam is launched into the collimator lens, "H" is an increasing rate in an amount of coma aberration of the second laser beam relative to a second angle of incidence " $\alpha_2 = \tan^{-1}((B-A)/f)$ " at which the second laser beam is launched into the collimator lens, "g" is an increasing rate in an amount of coma aberration of the first laser beam relative to a tilt angle of the objective lens and "G" is an increasing rate in an amount of coma aberration of the second laser beam relative to the tilt angle of the objective lens. (bold language emphasized).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Huber whose telephone number is 703-308-1549.



Paul Huber  
Primary Examiner  
Art Unit 2653

pwh  
September 9, 2004